Rohit Joshi (Ph.D.)
Principal Scientist
Plant Tissue Culture Laboratory,
Biotechnology Division,
CSIR-Institute of Himalayan Bioresource Technology, Palampur
Himachal Pradesh, India -176061
Mobile: +91- 9953989589
Email: rohitjoshi@ihbt.res.in; joshirohit6@gmail.com; rohitj_amo@yahoo.co.in

Academic Qualifications

Ph.D., Major: Plant Physiology, Minor: Molecular Biology and Biotechnology, (2007)
College of Basic Science and Humanities, G.B. Pant University of Agric. and Tech., Pantnagar, Uttaranchal, India
Thesis title: Physiological and molecular evaluation of field grown rice varieties and *in vitro* developed rice somaclones for aerobic situations

M.Sc., Plant Physiology, (2004)
College of Basic Science and Humanities, G.B. Pant University of Agric. and Tech., Pantnagar, Uttaranchal, India
Thesis title: *In-vitro* Selection of low phosphate tolerant lines to improve phosphorus acquisition in maize (*Zea mays* L.)".

B.Sc., Botany, Chemistry and Zoology, S.S.J. Campus, Kumaon University, Nainital, Uttaranchal, India, 2001

Professional Experience

Principal Scientist 01st Oct 2023 – Till date
Plant Tissue Culture Laboratory, Biotechnology Division,
CSIR- Institute of Himalayan Bioresource Technology, Palampur, Himachal Pardesh

Senior Scientist 01st Oct 2019 – 30th September 2023
Plant Tissue Culture Laboratory, Biotechnology Division,
CSIR- Institute of Himalayan Bioresource Technology, Palampur, Himachal Pardesh

Dr D S Kothari PDF Dec 2016 – Sept 2019
Stress Physiology and Molecular Biology Laboratory, School of Life Sciences,
Jawaharlal Nehru University (JNU), New Delhi
Prof. Ashwani Pareek (PhD; FNASc; FNAAS)

Research Scientist Sept 2016 – Nov 2016
Stress Physiology and Molecular Biology Laboratory, School of Life Sciences,
Jawaharlal Nehru University (JNU), New Delhi
Prof. Ashwani Pareek (PhD; FNASc; FNAAS)

SERB Young Scientist Sept 2013 – Sept 2016
Plant Stress Biology Group, International Center for Genetic Engineering and Biotechnology, Aruna Asaf Ali Marg, New Delhi-110067
Dr. Sneh Lata Singla Pareek (Ph.D. FNASc; FNA)

Research Associate Nov 2012- Sept 2013
Plant Stress Biology Group, International Center for Genetic Engineering and Biotechnology, Aruna Asaf Ali Marg, New Delhi-110067
Dr. Sneh Lata Singla Pareek (Ph.D. FNASc; FNA)

Visiting PDF March 2012- October 2012
School of Plant Environment and Soil Sciences,
Sturgis Hall, Baton Rouge, Louisiana, USA-70802
Dr. Niranjan Baisakh (Ph.D.)

Research Associate May 2009- March 2012
Division of Plant Physiology,
Indian Agricultural Research Institute (IARI), New Delhi 110012
Dr Viswanathan Chinnusamy (Ph.D.; FNAAS), Head of Division

Research Associate Oct 2007 – April 2009
Stress Physiology and Molecular Biology Laboratory,
School of Life Sciences, Jawaharlal Nehru University (JNU), New Delhi
Prof. Ashwani Pareek (PhD; FNASc; FNAAS)

Patent

1- 'Metallothionien polynucleotide from rice conferring abiotic stress tolerance in plants'. Indian patent application No. 2437/DEL/2009 A.

Technology Transfer

1- Technical Know-how on "Gerbera, Potato and *Bambusa balcooa* Tissue Culture", to M/S Pratyaksha Agrotech Pvt. Ltd., in 2020.

2- Technology transfer on "Manufacturing /production of tissue culture plants (saffron)", to M/S Prop. Sharma Biotech, V.P.O., Samoh, District Bilaspur, Himachal Pradesh in 2022.

3- Technology transfer on "Micropropagation of Apple and Monk Fruit", to M/S Gaytri Plant Tissue Culture Lab, V.P.O. Rajeher, Tehsil Palampur, Distt, Kangra, Himachal Pradesh in 2023 @ Rs. 29500.

Research Publications (Citations: 3900; h-index: 33; i10-index: 56; Total Impact: 250)

1. Gusain S and **Joshi R*** 2025. Morphological, physiological and transcriptional changes in *Crocus sativus* L. under in vitro polyethylene glycol-induced water stress. ***Biology***. ***corresponding author (IF=3.6)**

2. Nath J, Joshi S, Gupta S, Kesarwani V, Shankar R, and **Joshi R*** 2024. Genome wide identification of WUSHEL-related homeobox genes reveal their differential regulation during cold stress and *in vitro* organogenesis in *Picrorhiza kurrooa*. ***In Vitro Cellular & Developmental Biology-Plants.*** 60: 439-455. ***corresponding author (IF=2.2)**

3. Kumari A, Joshi S, Dar AI and **Joshi R*** 2024. Physiological responses and transcriptomic profiles unveil pivotal genes and pathways implicated in nano-elicited *in vitro* shoot proliferation of *Bambusa balcooa*. ***Plant Cell Tissue and Organ Culture***. 158: 9. ***corresponding author (IF=2.3)**

4. Joshi S, Nath J, and **Joshi R*** 2024. Genome-Wide Identification, Characterization and Expression Analysis of the MAPK Gene Family in *Nardostachys jatamansi* (D. Don) DC. ***In Vitro Cellular and Developmental Biology-Plants.*** 60: 222–237**. *corresponding author (IF=2.2)**

5. Patial M, Devi K, Sharma P, Sharma RK, Pal PK, Kumar S and **Joshi R*** 2024. Development of robust *in vitro* propagation protocol and cyto-genetic fidelity assessment of *Siraitia grosvenorii* (monk fruit). ***Scientia Horticulturae.*** 331: 113142. ***corresponding author** (**IF=3.9**)

6. Joshi S and **Joshi R*** 2024. Comparative transcriptome analyses reveal differential regulation of *in vitro* regeneration by nano-elicitation in *Nardostachys jatamansi*. ***South African Journal of Botany.*** 167: 585-596. ***corresponding author** (**IF=2.7**)

7. Patial M, Suryavanshi V, Devi K, Pal PK and **Joshi R*** 2024. Morpho-physiological and biochemical response of Monk Fruit to charged gold nanoparticles under in vitro conditions. ***Sugar Tech.*** 26: 709–718. ***corresponding author (IF= 1.8).**

8. Anwar K, **Joshi R**, Bahuguna RN, Govindjee G, Sasidharan R, Singla-Pareek SL and Pareek A 2024. Impact of individual, combined and sequential stress on photosynthesis machinery in rice (*Oryza Sativa* L). ***Physiologia Plantarum.*** 176: e14209. **(IF=5.4).**

9. Chandoliya R, **Joshi R**, and Sharma V 2025. Effect of NAA and picloram on the callus induction of *Aloe barbadensis*. ***Research Journal of Biotechnology.***

10. Kumar A, Rawat N, Thakur S, **Joshi R** and Pandey SS 2023. A highly efficient protocol for isolation of protoplast from China, Assam and Cambod types of tea plants [*Camellia sinensis* (L.) O. Kuntze]. ***Plant Methods***. 19: 147. (**IF=4.7**).

11. Kumari A, Joshi S, Dar AI and **Joshi R*** 2023. Physio-biochemical integrators and transcriptome analysis reveal nano-eleicitation associated response during *Dendrocalamus asper* (Schult. and Schult. F.) Backer ex K. Heyne micropropagation. ***Genes***. 14: 1725. ***Corresponding Author** (**IF= 2.8**)

12. Nath J, Devi K, Kumar V, Sharma P, Sharma RK and **Joshi R*.** 2023. *In vitro* flower induction and cyto-genetic fidelity assessment of *Chlorophytum comosum* (Thunb.) Jacques var. *comosum*. ***South African Journal of Botany.*** 159: 678-685. ***corresponding author** (**IF=2.7**)

13. Kumari A., Kumar A., Singh S. and **Joshi R*.** 2023. Synergistic interaction between morpho-physiological traits linked with the propagation of bamboo species through culm and rhizome (offset) cuttings. ***South African Journal of Botany.*** 155: 196-204. ***corresponding author** (**IF=2.7**)

14. Joshi S, Dar AI, Acharya A. and **Joshi R*** 2022 Charged gold nanoparticles promote *in vitro* proliferation in *Nardostachys jatamansi* by differentially regulating chlorophyll content, hormone concentration, and antioxidant activity. ***Antioxidants.*** 11: 1962. ***corresponding author** (**IF=6.0**)

15. Mishra M, Rathore RS, **Joshi R**, Pareek A and Singla-Pareek SL 2022. DTH8 overexpression induces early flowering, boosts yield, and improves stress recovery in rice cv IR64. ***Physiologia Plantarum***. 174(3): e13691 (**IF=5.4**)

16. Anwar K[#], **Joshi R**[#], Morales A, Das G, Yin X, Anten NPR, Raghuvanshi S, Bahuguna R, Singh M, Singh RK, Zanten MV, Sasidharan R, Singla-Pareek SL and Pareek A 2022. Genetic diversity reveal synergistic interaction between yield components could improve the sink size and yield in rice. ***Food and Energy Security***. 11: e334. **(IF=4.0)** #Equal contribution

17. Kumari A, Dogra V, **Joshi R** and Kumar S 2022. Stress-responsive cis-regulatory elements underline podophyllotoxin biosynthesis and better performance of *Sinopodophyllum hexandrum* under water deficit conditions. ***Frontiers in Plant Science***. 12: 751846. (**IF=4.1**)

18. Panwar GS, Joshi B, **Joshi R** 2022. Axenic rhizome culture and clonal fidelity assessment of *Eulophia dabia* (D. Don) Hochr: an endangered terrestrial orchid species. ***In vitro Cellular and Developmental Biology-Plants***. 58: 567-576. **(IF=2.2)**

19. Sahoo KK, Gupta BK, Kaur C, **Joshi R**, Pareek A, Sopory SK and Singla-Pareek SL 2021. Methylglyoxal-glyoxalase system as a possible selection module for raising marker-safe plants in rice. ***Physiology and Molecular Biology of Plants***. 27(11): 2579 - 2588 **(IF=3.4)**

20. Upadhyay G, Tiwari N, Maurya H, Upadhyay J, **Joshi R** and Ansari MN 2021. *In vivo* wound healing and antioxidant activity of aqueous extract of *Roylea elegans* leaves against physically induced burn model in wistar albino rats. ***3Biotech.*** 11: 442 **(IF= 2.6)**

21. **Joshi R**, Sahoo KK, Singh AK, Anwar K, Pundir P, Gautam RK, Krishnamurthy SL, Sopory SK, Pareek A and Singla-Pareek SL 2020. Enhancing trehalose biosynthesis improves yield potential in marker-free transgenic rice under drought, saline, and sodic conditions. ***Journal of Experimental Botany***. 71(2): 653-668 (**IF=5.6**)

22. **Joshi R,** Bhattacharya P, Sairam RK, Sathee L and Chinnusamy V 2020. Identification and characterization of NADH kinase-3 from a stress tolerant wild mung bean species [*Vigna luteola* (Jacq.) Benth.] with a possible role in waterlogging tolerance. ***Plant Molecular Biology Reporter.*** 38: 137-150 **(IF=1.6)**

23. Sengupta S, Mangu V, Sanchez L, Bedre R, **Joshi R,** Rajasekaran K, Baisakh N 2019. An Actin Depolymerizing Factor from the halophyte smooth cordgrass, *Spartina alterniflora* (*SaADF2*) is superior to its rice homolog (*OsADF2*) in conferring drought and salt tolerance when constitutively overexpressed in rice. ***Plant Biotechnology Journal***. 17(1): 188-205 (**IF=10.1**)

24. Wungrampha S, **Joshi R**, Rathore RS, Singla-Pareek SL, Govindjee and Pareek A 2019. CO_2 uptake and chlorophyll a fluorescence of *Suaeda fruticosa* grown under diurnal rhythm and after transfer to continuous dark. ***Photosynthesis Research***. 142 (2): 211-227. (**IF=2.9**)

25. **Joshi R**, Sahoo KK, Tripathi AK, Kumar R, Gupta BK, Pareek A and Singla-Pareek SL 2018. Knockdown of an inflorescence meristem-specific cytokinin oxidase - OsCKX2 in rice reduces yield penalty under salinity stress condition. ***Plant Cell & Environment*** 41(5): 936-946 **(IF=6.0)** (Special Issue on Climate Resilient Crops).

26. **Joshi R***, Singh B and Shukla A 2018. Evaluation of elite rice genotypes for physiological and yield attributes under aerobic and irrigated conditions in Tarai areas of western Himalayan region. ***Current Plant Biology.*** 13: 45-52. **(IF= 5.4) *corresponding author**

27. Upadhyay G, Malik J, **Joshi R**, Lakshmayya and Singh UK 2017. Hepatoprotective potential of lyophilized hydro-alcoholic extract of *Roylea elegans* Wall. against CCL4 and PCM induced hepatotoxicity in wistar rats. ***Annals of Pharmacology and Pharmaceutics.*** 2(8): 1045.

28. **Joshi R,** Prashat R, Sharma PC, Singla-Pareek SL and Pareek A 2016. Physiological characterization of gamma-ray induced mutant population of rice to facilitate biomass and yield improvement under salinity stress. ***Indian Journal of Plant Physiology.*** 21(4): 545-555. **(IF=1.5)** (Special Issue: Challenges and Strategies in Plant Biology Research)

29. Kushwaha HR#, **Joshi R#,** Pareek A and Singla-Pareek SL 2016. MATH-domain family shows response towards abiotic stress in Arabidopsis and rice. ***Frontiers in Plant Science.*** 7: 923. **(IF=4.1)** #contributed equally

30. **Joshi R#**, Karan R#, Singla-Pareek SL and Pareek A 2016. Ectopic expression of Pokkali phosphoglycerate kinase-2 (OsPGK2-P) improves yield in tobacco plants under salinity stress. ***Plant Cell Reports*** 35: 27-41. **(IF=5.3)** #contributed equally

31. Kumari S#, **Joshi R#,** Singh K#, Roy S#, Tripathi AK, Singh P, Singla-Pareek SL and Pareek A 2015. Expression

of a cyclophilin OsCyp2-P isolated from a salt tolerant landrace of rice in tobacco alleviates stress via ion homeostasis and limiting ROS accumulation. ***Functional and Integrative Genomics.*** 15: 395-412. **(IF=3.9)** #contributed equally

32. **Joshi R,** Ramanarao, VM, Lee, S; Kato, N and Baisakh, N 2014. Ectopic expression of ADP Ribosylation Factor1 (*SaARF1*) from smooth cordgrass (*Spartina alterniflora*) confers drought and salt tolerance in transgenic rice and *Arabidopsis*. ***Plant Cell Tissue and Organ Culture.*** 117: 17-30 **(IF=2.3)**

33. Upadhyay J, Upadhyay G, **Joshi R** and Juyal V 2014. Effect of rhododendron flower juice on the bioavailability of amlodipine in rats. ***International Journal of Bioassays***. 3: 1734-1737.

34. **Joshi R,** Ramanarao, VM and Baisakh, N 2013. *Arabidopsis* plants constitutively overexpressing a myo-inositol 1-phosphate synthase gene (*SaINO1*) from the halophyte smooth cordgrass exhibits enhanced level of tolerance to salt stress. ***Plant Physiology and Biochemistry***. 65:61-66. **(IF=6.1)**

35. Kumar P, Pal M, **Joshi R** and Sairam RK 2013. Yield, growth and physiological responses of mung bean [*Vigna radiata* (L.) Wilczek] genotypes to waterlogging at vegetative stage. ***Physiology and Molecular Biology of Plants***. 19(2): 209-220. **(IF=3.4)**

36. **Joshi R,** Shukla A and Kumar P 2013. *In vitro* water deficit stress induced genotypic alterations in protein profile among aromatic rice varieties. ***Annals of Plant Sciences***. 2: 455-458.

37. Kumar G, Kushwaha HR, Punjabi-Sabharwal V, Kumari S, **Joshi R,** Karan R, Mittal S, Singla-Pareek SL and Pareek A 2012. Clustered metallothionein genes are co-regulated in rice and ectopic expression of *OsMT1e-P* confers multiple abiotic stress tolerance in tobacco via ROS scavenging. ***BMC Plant Biology.*** 12: 107. **(Highly Accessed). (IF=4.3)**

38. Bahuguna RN, **Joshi R,** Pandey M, Shukla A and Kumar J 2012. Thiamine primed defense provides reliable alternative to systemic fungicide carbandazim against sheath blight disease in rice (*Oryza sativa* L.). ***Plant Physiology and Biochemistry***. 57: 159-167. **(IF=6.1)**

39. Sairam RK, Dharmar K, Chinnusamy V, Lekshmy S, **Joshi R** and Bhattacharya P 2012. The role of non-symbiotic haemoglobin and nitric oxide homeostasis in waterlogging tolerance in *Vigna* species. ***Biologia Plantarum***. 56 (3): 528-536. **(IF=0.8)**

40. Sairam RK, Chinnusamy V, Arora A, Bhattacharya P, **Joshi R** and Trivedi S 2012. Non-symbiotic hemoglobin and nitrate reductase constitute an alternative to fermentation in waterlogging tolerance of mung bean [*Vigna radiata* (L.) Wilczek]. ***Indian Journal of Plant Physiology***. 17(2): 93-102. **(IF=1.5)**

41. Sairam RK, Dharmar K, Chinnusamy V, Lekshmy S, **Joshi R** and Bhattacharya P 2011. NADPH oxidase as the source of ROS produced under waterlogging in roots of mung bean. ***Biologia Plantarum.*** 55(4): 741-746. **(IF=0.8)**

42. **Joshi R*,** Shukla A and Sairam RK 2011. *In vitro* screening of rice genotypes for drought tolerance using polyethylene glycol. ***Acta Physiologiae Plantarum***. 33(6): 2209-2217. **(IF=2.4) *corresponding author**

43. Verma D, **Joshi R,** Shukla A and Kumar P 2011. Protocol for *in vitro* somatic embryogenesis and regeneration of rice (*Oryza sativa* l.). ***Indian Journal of Experimental Biology.*** 49(12): 958-963. **(IF=0.7)**

44. Bahuguna RN, **Joshi R,** Singh G, Shukla, A, Gupta R and Bains G 2011. Micropropagation and total alkaloid extraction of *Rauwolfia serpentina*: An important anti-hypersensitive medicinal shrub. ***Indian Journal of Agricultural Sciences.*** 81(12): 1124–1129. **(IF=0.3)**

45. **Joshi R,** Shukla A and Kumar P 2010. Interactive effect of GA_3 and polyamines on *in vitro* somatic embryogenesis from immature embryos in maize (*Zea mays* L.). ***Maydica***. 55: 111-119. **(IF=0.4)**

46. **Joshi R,** Shukla A, Mani SC and Kumar P 2010. Hypoxia induced non-apoptotic cellular changes during aerenchyma formation in rice (*Oryza sativa* L.) roots. ***Physiology and Molecular Biology of Plants***. 16(1): 99-106. **(IF=3.4)**

47. **Joshi R,** Shukla A and Kumar P 2010. *In vitro* selection of hill maize (*Zea mays* L.) hybrids for low phosphate tolerance. ***Indian Journal of Plant Physiology***. 15(2): 159-163. **(IF=1.5)**

48. **Joshi R,** Shukla A and Kumar P 2009. *In vitro* flowering in hill maize: A novel technique for future. ***Indian Journal of Plant Physiology***. 14(3): 299-302. **(IF=1.5)**

Review articles

1. Kumari A, Sopory SK and **Joshi R*** 2025. Unraveling the intricate tapestry of bamboo transcription factors in abiotic stress signalling and resilience with special reference to moso bamboo family. ***BBA-General Subjects.*** 1869: 130755 **(IF=2.8)**

2. Bohra A, Tiwari A, Pareek S, **Joshi R**, Satheesh Naik SJ, Kumari K, Verma RL, Parihar AK, Patil PG, Dixit GP 2025. Past and future of cytoplasmic male sterility and heterosis breeding in crop plants. ***Plant Cell Reports.*** **(IF= 5.3)**

3. Kumari K, Gusain S and **Joshi R*** 2025. Engineering cold resilience: Implementing gene editing tools for plant cold stress tolerance. ***Planta***. 261: 2. **(IF= 3.6)**

4. Bohra A, Choudhary M, Bennett D, **Joshi R**, Mir RR, and Varshney R 2024. Drought tolerant wheat for enhancing global food security. ***Functional & Integrative Genomics***. 24: 212 **(IF= 3.9)**

5. Chandoliya R, Sharma S, Sharma V, **Joshi R** and Sivanesan I 2024. Titanium dioxide nanoparticle: A comprehensive review on synthesis, applications and toxicity. ***Plants.*** 13: 2964 **(IF=4.0)**

6. Gusain S, Kumari K and **Joshi R*** 2024. Physiological, hormonal and molecular dynamics of root system architectural response to drought stress signalling in crops. 31: 100922. ***Rhizosphere.*** 31: 100922. ***Corresponding Author. (IF= 3.4)**

7. Kumari A., Sharma R.K. and **Joshi R*.** 2024. Understanding the population dynamics and spatial variability of tea plantation. ***Vegetos.*** 37: 439–446. ***Corresponding Author.**

8. Gusain S., Joshi S., and **Joshi R*** 2023. Sensing, signalling, and regulatory mechanism of cold stress tolerance in plants. ***Plant Physiology and Biochemistry***. 197: 107646. ***Corresponding Author. (IF= 6.1)**

9. Joshi S, Chinnusamy V and **Joshi R*** 2022. Root system architecture and omics approaches for below-ground abiotic stress tolerance in plants ***Agriculture.*** 12(10): 1677. ***Corresponding Author.** (**IF=3.6**)

10. Joshi S, Nath J, Singh AK*****, Pareek A and **Joshi R*** 2022. Ion transporters and their regulatory signal transduction mechanisms for salinity tolerance in plants. ***Physiologia Plantarum***. 174(3): e13702. ***Corresponding Author.** (**IF=5.4**)

11. Anwar K, **Joshi R**, Dhankher OP, Singla-Pareek SL and Pareek A 2021. Elucidating the response of crop plants towards individual, combined and sequentially occurring abiotic stresses. ***International Journal of Molecular Sciences.*** 22(11): 6119 **(IF=4.9)**

12. Shailani A, **Joshi R**, Singla-Pareek SL and Pareek A 2021. Stacking for future: pyramiding genes to improve salinity and drought stress tolerance. ***Physiologia Plantarum.*** 172: 1352–1362 (**IF=5.4**).

13. Wani SH, Anand S, Singh B, Bohra A and **Joshi R*** 2021. WRKY transcription factors and plant defense responses: Latest discoveries and future prospects. ***Plant Cell Reports.*** 40(7): 1071-1085 (**IF=5.3**) *** Corresponding Author**

14. Pareek A, **Joshi R,** Singla-Pareek SL, Gupta KJ and Foyer C 2020. Sensing and signalling in plant stress responses: Ensuring sustainable food security in an era of climate change. ***New Phytologist.*** 228: 823-827 (**IF=8.3**).

15. Tiwari N, Upadhyay J, Ansari MN and **Joshi R** 2020. Novel Coronavirus (SARS-CoV-2): Current and future aspects of pharmacological treatments. ***Saudi Pharmaceutical Journal***. 28(10): 1243–1252 (**IF=3.0**)

16. Wungrampha S, **Joshi R**, Singla-Pareek SL and Pareek A 2019. How to survive in salty desert: An adventure study with *Suaeda fruticosa*. ***The Journal of Plant Science Research.*** 35(2): 257-261. (Letter to the Editor)

17. **Joshi R**, Singla-Pareek SL and Pareek A 2018. Engineering abiotic stress response in plants for biomass production. ***Journal of Biological Chemistry***. 293: 5035-5043. (**IF=4.0**).

18. Wani SH, Tripathi P, Zaid A, Challa GS, Kumar A, Kumar V, Upadhyay J, **Joshi R** and Bhatt M 2018. Transcriptional Regulation of Osmotic Stress Tolerance in Wheat (*Triticum aestivum* L.). ***Plant Molecular Biology.*** 97(6): 469-487 **(IF=3.9)**

19. Wungrampha S, **Joshi R**, Singla-Pareek SL and Pareek A 2018. Photosynthesis and salinity: are they mutually exclusive? ***Photosynthetica***. 56(1): 366-381. **(IF=2.1).**

20. **Joshi R**, Gupta P, Singla-Pareek SL and Pareek A 2017. Biomass production and salinity response in plants: role of MicroRNAs. ***Indian Journal of Plant Physiology.*** 22: 448-457. **(IF=1.5)** (Special Issue: Small RNAs: Regulators of plant development and climate resilience)

21. **Joshi R**, Wani SH, Singh B, Bohra A, Dar ZA, Lone AA, Pareek A and Singla-Pareek SL 2016. Transcription factors and plant response to drought stress: Current understanding and future directions. ***Frontiers in Plant Science.*** 7: 1029. **(IF=4.1)**

22. Bohra A, Sahrawat KL, Kumar S, **Joshi R,** Parihar AK, Singh U, Singh D and Singh NP 2015. Genetics and genomics-based interventions for nutritional enhancement of grain-legume crops: Status and outlook. ***Journal of Applied Genetics.*** 56: 151-161. **(IF=2.0)**

23. Singh B, Bohra A, Mishra S, **Joshi R** and Pandey S 2015. Embracing new-generation 'omics' tools to improve drought tolerance in cereal and food-legume crops. ***Biologia Plantarum.*** 59 (3): 413-428. **(IF=0.8).**

24. **Joshi R** and Kumar P 2013. Regulation of somatic embryogenesis in crops: A review. ***Agricultural Reviews.*** 34(1): 1-20**.**

25. **Joshi R** and Kumar P 2012. Lysigenous aerenchyma formation involves non-apoptotic programmed cell death in rice roots. ***Physiology and Molecular Biology of Plants***. 18(1): 1-9. **(IF=3.4)**

26. **Joshi R** and Kumar P 2012. Aerobic Rice: An option for growing rice under limited water availability. ***Indian Farming***. **62(2):** 11-14.

27. **Joshi R,** Nailwal TK, Tewari LM and Shukla A 2010. Exploring biotechnology for conserving himalayan biodiversity. ***Life Science Journal***. 7(3): 20-28.

28. **Joshi R*,** Mani SC, Shukla A and Pant RC 2009. Aerobic rice: water use sustainability. ***Oryza***. 46(1): 1-5. ***Corresponding author**

Other Publications

1. Rawat M, Devi K and **Joshi R** 2023. ChatGPT: Applications, benefits and limitations. **Manthan Magazine (CSIR-IHBT)**. 2: 18-19.
2. Rawat M, Devi K and **Joshi R** 2023. मसालों की रानी –इलायची. **Manthan Magazine (CSIR-IHBT)**. 1: 12-13.
3. Nath J, Gusain S, Dhiman R, Devi K and **Joshi R** 2022. Internet of Things (IoT): A revolution to climate-smart agriculture. **Manthan magazine (CSIR-IHBT).** 2: Pp 8-9.
4. **Joshi R** and Upadhyay J 2022. DNA sequencers realising precise, portable & personalized medical care. **Science Reporter.** 59(8): 13. Spectrum.
5. **Joshi R** 2022. Hopes, and expectations in clinical research post-COVID. **Medical Buyer magazine**. XX(5): 81. Guest Column.
6. Patial M, Joshi S, Devi K and **Joshi R** 2022. जीनोम- एडिटिंग द्वारा खाद्य सुरक्षा से जुड़ी सामाजिक धारणाएँ एवं समाधान. **Manthan magazine (CSIR-IHBT).**
7. **Joshi R** 2021. The quest for Artificial Intelligence. **Medical Buyer magazine.** XIX (6): 92-93 Perspective.
8. Kumari A, Devi K and **Joshi R** 2021. पद्मश्री करतार पारस राम सिंह: हरे सोने के जौहरी. **Manthan magazine (CSIR-IHBT).**
9. **Joshi R** 2020. Flow Cytometer: applications in immunophenotyping. **Medical Buyer magazine.** XVIII (5): 53 Second Opinion.
10. **Joshi R** 2019. Some like it hot: DNA amplification using thermal cyclers. **Medical Buyer magazine**. XVII (9): 63 Second Opinion.
11. **Joshi R** 2019. Electrophoresis: State of art technology for Past, Present and Future. **Medical Buyer magazine**. XVII (5): 55. Second Opinion.
12. **Joshi R** 2018. DNA Microarray Technology: Beyond Molecular Profiling. **Medical Buyer magazine**. XVI (11): 75. Guest Column.
13. **Joshi R** 2018. Polymerase Chain Reaction: A Revolutionary Invention. **Medical Buyer magazine**. XVI (9): 70. Guest Column.
14. Kumar P and **Joshi R** 2011. वायवीय (ऐरोबिक) धानः जल की अपर्याप्तता में धान की खेती का विकल्प। **प्रसार दूत**। **15(1):** 17-19.

Book Chapters

1. Joshi S, Kumari A, and **Joshi R*** 2025. Understanding single-cell multi-omics for high resolution cellular interactome mapping. In: Guide to plant single-cell technology: Functional genomics and crop improvement, (Ed. Chen JT). Elsevier USA. Pp 35–65. https://doi.org/10.1016/B978-0-443-23736-2.00002-2
2. Gusain S, Joshi S, Kumari A, Nath J, Kumari K, Rawat M and **Joshi R*** 2025. Cold priming and memory induced acquired tolerance and possible mechanism in plants. In: Exogenous Priming and Engineering of Metabolic and Regulatory Genes: Stress Mitigation Strategies in Plants, (Eds. Patel MK, Tran LP, Pandey S and Mishra A). Academic Press, USA.

3. Rawat M, Kumari K, Gusain S, Joshi S, Kumari A, Nath J and **Joshi R*** 2025. Alterations in plant primary and secondary metabolism by priming. In: Exogenous Priming and Engineering of Metabolic and Regulatory Genes: Stress Mitigation Strategies in Plants, (Eds. Patel MK, Tran LP, Pandey S and Mishra A). Academic Press, USA.

4. Patial A, Chandoliya R, Kumari A, Sharma V, **Joshi R*** 2024. Transcriptome Analysis for Unraveling the Molecular Secrets of Medicinal Plants. In: Nandave, M., Joshi, R., Upadhyay, J. (eds) Ethnopharmacology and OMICS Advances in Medicinal Plants Volume 2. Springer, Singapore. Pp 305–339. https://doi.org/10.1007/978-981-97-4292-9_14

5. Kaushal V, Chand P, Rupanagunta GP, **Joshi R**, Nandave M, Upadhyay J 2024. Investigating the Therapeutic Potential of Medicinal Plants in Managing Mental Health Disorders. In: Nandave, M., Joshi, R., Upadhyay, J. (eds) Ethnopharmacology and OMICS Advances in Medicinal Plants Volume 2. Springer, Singapore. Pp 515–530. https://doi.org/10.1007/978-981-97-4292-9_23

6. Jauhari S, Jauhari R, Rupanagunta GP, Nandave M, Upadhyay J, **Joshi R*** 2024. Insights on the Integration of Ethnopharmacology and Omics in Medicinal Plant Research. In: Nandave, M., Joshi, R., Upadhyay, J. (eds) Ethnopharmacology and OMICS Advances in Medicinal Plants Volume 2. Springer, Singapore. Pp 501–514. https://doi.org/10.1007/978-981-97-4292-9_22

7. Chandoliya R, Patial A, Joshi S, Sharma V, **Joshi R*** 2024. Challenges, Advancements, and Opportunities in Genome Editing: A Medicinal Plant Perspective. In: Nandave, M., Joshi, R., Upadhyay, J. (eds) Ethnopharmacology and OMICS Advances in Medicinal Plants Volume 2. Springer, Singapore. Pp 403–424. https://doi.org/10.1007/978-981-97-4292-9_18

8. Patial M, Rani V, Joshi DC, **Joshi R**, Nandave M, Upadhyay J 2024. Advancements in Medicinal Plants Genome Sequencing to Revolutionize Genomics. In: Nandave, M., Joshi, R., Upadhyay, J. (eds) Ethnopharmacology and OMICS Advances in Medicinal Plants Volume 2. Springer, Singapore. Pp 341–361. https://doi.org/10.1007/978-981-97-4292-9_15

9. Nath J, Kumari A, Joshi S, Gusain S, Kumari K, Patial M, Rawat M and **Joshi R*** 2024. Micropropagation technology for improvement of ornamental plants. In: Bhargava, B., Kumar, P., Verma, V. (eds) Ornamental Horticulture: Latest Cultivation Practices and Breeding Technologies. Springer, Singapore. Pp 121-149. https://doi.org/10.1007/978-981-97-4028-4_7

10. Tiwari A, Joshi S, **Joshi R** and Bohra A 2024. Omics advancements in plant abiotic stress. In: Joshi R, Nath M, Bhatt D and Badoni S (Eds.) Current Omics Advancement in Plant Abiotic Stress Biology. Academic Press, USA. Pp-27-37. https://doi.org/10.1016/B978-0-443-21625-1.00002-6

11. Joshi S, Nath J, Kumari A, Gusain S, Kumari K, Rawat M and **Joshi R*** 2024. Advancement in understanding cold stress tolerance using "omics" tools. In: Bhatt D, Nath M, Badoni S and Joshi R (Eds.) Current Omics Advancement in Plant Abiotic Stress Biology. Academic Press, USA. Pp-51-61. ***Corresponding Author** https://doi.org/10.1016/B978-0-443-21625-1.00004-X

12. Dabral S, Grag E, Bhatt D, Joshi S, **Joshi R**, Nath M 2024. Role of Omics in understanding heavy metal responses and tolerance in plants. In: Joshi R, Nath M, Bhatt D and Badoni S (Eds.) Current Omics Advancement in Plant Abiotic Stress Biology. Academic Press, USA. Pp-119-128. https://doi.org/10.1016/B978-0-443-21625-1.00009-9

13. Kumari A, Nath J, Gusain S, Joshi S, Kumari K, Rawat M and **Joshi R*** 2024. Omic tools in understanding stress tolerance in grasses. In: Joshi R, Nath M, Bhatt D and Badoni S (Eds.) Current Omics Advancement in Plant Abiotic Stress Biology. Academic Press, USA. Pp-255-268. ***Corresponding Author** https://doi.org/10.1016/B978-0-443-21625-1.00017-8

14. Patial M, Sharma RK, and **Joshi R*** 2023. CRISPR/Cas-mediated genome editing strategies for abiotic stress tolerance in crops. In: Kumar R, Sharma A, Kumar Y and Sharma I (Eds.) Genome editing for crop improvement. NOVA Science Publishers, New York, USA. Pp 147-160. (ISBN: 979-8-88697-740-0) ***Corresponding Author**

15. Sareen B, and **Joshi R*** 2023. Expand the survival limits of crop plants under cold climate region. In: Ansari MW, Singh A and Tuteja N (Eds.) Global Climate Change and Plant Stress Management. John Wiley & Sons, USA. Pp 161-174. (ISBN: 978-1-119-85852-2) ***Corresponding Author** https://onlinelibrary.wiley.com/doi/10.1002/9781119858553.ch13

16. Patial, M., Devi, K., and **Joshi, R*** 2022. CRISPR/Cas9-Mediated Targeted Mutagenesis in Medicinal Plants. In: Wani, S.H., Hensel, G. (eds) Genome Editing. Springer, Cham. Pp 55-70. (ISBN: 9783031080715) ***Corresponding Author.** https://doi.org/10.1007/978-3-031-08072-2_3

17. Das P, Bahuguna RN, **Joshi R,** Singla-Pareek SL and Pareek A 2021. In search of mutants for gene discovery and functional genomics for multiple stress tolerance in rice. In: Sivasankar S, Ellis THN, Jankuloski L, Ingelbrecht I (Eds.) Mutation breeding, genetic diversity and crop adaptation to climate change. Chapter 45. CABI, UK. Pp 444-450. (ISBN: 9781789249095).

18. Bohra A, Naik SJ, Kumari A, Tewari A and **Joshi R*** 2021. Integrating phenomics with breeding for climate-smart agriculture. In: Kumar A, Kumar R, Shukla P, Patel HK (Eds.) Omics technologies for sustainable agriculture and global food security, Vol. II, Springer. Springer Singapore. Pp 1-24. (ISBN: 978-981-16-2956-3) ***Corresponding Author**

19. Kumari A, Upadhyay J, and **Joshi R*** 2021. Psychrotrophic Microbes: Biodiversity, Adaptation, and Implications. In: Nath M, Bhatt D, Bhargava P, Choudhary DK (Eds.) Microbial metatranscriptomics belowground. Springer, Singapore. Pp 273-293. (ISBN: 978-981-15-9757-2) ***Corresponding Author**

20. Singh B, Mishra S, Bisht DS, and **Joshi R*** 2021. Growing rice with less water: improving productivity by reducing water demand. In: Ali J, Wani SH (Eds.) Rice Improvement: Physiological, Molecular Breeding and Genetic Perspectives. Springer, Cham. Pp 147-170. (ISBN: 978-3-030-66529-6). ***Corresponding Author**

21. **Joshi R**, Devi K and Bhattacharya A 2020. Tissue culture techniques of saffron and heeng. In: Kumar R (Ed.) Training manual on production technology of saffron and heeng. CSIR-IHBT publication. Pp 38-40.

22. Upadhayay J, Rana M, Juyal V, Bisht SS, and **Joshi R*** 2020. Impact of pesticide exposure and associated health effects. In: Srivastava PK, Singh VP, Singh A, Tripathi DK, Singh S, Prasad SM, Chauhan DK (Eds.) Pesticides in Crop Production: Physiological and Biochemical Action. John Wiley & Sons, USA. Pp 69-88. (ISBN: 978-1-119-43223-4). ***Corresponding Author**

23. **Joshi R.**, Gupta BK, Pareek A, Singh MB, and Singla-Pareek SL 2019. Functional genomics approach towards dissecting out abiotic stress tolerance trait in plants. In: Rajpal V., Sehgal D., Kumar A., Raina S. (eds) Genetic enhancement of crops for tolerance to abiotic stress: Mechanisms and approaches, Vol. I. Sustainable development and biodiversity, vol 20. Springer, Cham. Pp 1-24. (ISBN: 978-3-319-91956-0).

24. **Joshi R,** Dkhar J, Singla-Pareek SL and Pareek A 2019. Molecular mechanism and signaling response of heavy metal stress tolerance in plants. In: Srivastava S., Srivastava A., Suprasanna P. (eds) Plant-Metal Interactions. Springer, Cham. Pp 29-47 (ISBN: 978-3-030-20731-1).

25. Singh B, Mishra S, Bohra A, **Joshi R*** and Siddique KHM 2018. Crop phenomics for abiotic stress tolerance in crop plants. In: Biochemical, physiological and molecular avenues for combating abiotic stress tolerance in plants. Wani SH (Ed.), Academic Press, USA. Pp 277-296. (ISBN: 9780128130667). ***Corresponding Author**

26. **Joshi R***, Singh B and Chinnusamy V 2018. Genetically engineering cold stress-tolerant crops: Approaches and challenges. In: Cold tolerance in plants: Physiological, molecular and genetic perspectives. Wani SH and Herath V (Eds.), Springer, Switzerland. Pp 179-195. (ISBN: 978-3-030-01414-8). ***Corresponding Author**

27. **Joshi R,** Anwar K., Das P, Singla-Pareek SL, and Pareek A 2017. Overview of methods for assessing salinity and drought tolerance of transgenic wheat lines. In: Bhalla P., Singh M. (eds) Wheat Biotechnology. Methods in Molecular Biology, vol 1679. Humana Press, New York, NY. Pp 83-95. (ISBN: 978-1-4939-7337-8). **(IF= 10.71)**

28. Bohra A, Pareek S, Jha R, Saxena RK, Singh IP, Pandey G, Mishra RK, Singh F, Kaashyap M, **Joshi R** and Varshney RK 2017. Modern Genomic Tools for Pigeonpea Improvement: Status and Prospects. In: Varshney RK., Saxena RK., Jackson SA. (eds) The Pigeonpea Genome. Compendium of Plant Genomes. Springer, Cham. Pp 41-54. (ISBN: 978-3-319-63797-6).

29. Upadhyay J, **Joshi R,** Singh B, Bohra A, Vijayan R, Bhatt M, Bisht SPS and Wani SH 2017. Application of bioinformatics in understanding of plant stress tolerance. In: Plant Bioinformatics: Decoding the phyta, Hakeem, K; Malik, A., Vardar-Sukan, F. and Ozturk, M. (Eds.), Springer, Cham. Pp 347-374. (ISBN 978-3-319-67155-0).

30. Gupta BK, **Joshi R,** Pareek A and Singla-Pareek SL 2017. Transgenic Approaches to Improve the Crop Productivity via Phytohormonal Research: A Focus on Mechanism of Phytohormone Action. In: Mechanism of Plant Hormone Signaling under Stress: A Functional Genomic Frontier, 2nd Volume, Pandey, GK (Ed.), John Wiley & Sons, Inc., Hoboken, NJ, USA. Pp 533-567. (ISBN- 9781118889022).

31. **Joshi R*,** Pareek A and Singla-Pareek SL 2016. Plant Metallothioneins: Classification, distribution, function and regulation. In: Plant Metal Interaction: Emerging Remediation Technologies. Ahmad, P. (Ed.), Elsevier USA. Pp 239-262. (ISBN: 978-0-12-803158-2). ***corresponding author**

32. **Joshi R*,** Singh B, Bohra A and Chinnusamy V 2015. Salt stress signalling pathways: specificity and crosstalk. In: Managing salinity tolerance in plants: molecular and genomic perspectives. Wani SH and Hossain MA (Eds.), CRC Press, Boca Raton, FL 33487, USA. Pp 51-78 (ISBN: 9781482245134). ***corresponding author**

33. **Joshi R,** Ramanarao MV, Bedre R, Sanchez L, Pilcher W, Zandkarimi H and Baisakh N 2015. Salt adaptation mechanisms of halophytes: Improvement of salt tolerance in crop plants. In: Elucidation of abiotic stress signaling in plants: Functional genomics perspectives, Vol 2. Pandey, GK (Ed.), Springer, New York. Pp 243-280. (ISBN: 978-1-4939-2539-1).

34. Gupta BK, Tripathi AK, **Joshi R,** Pareek A and Singla-Pareek SL 2015. Designing climate-smart future crops employing signal transduction components. In: Elucidation of abiotic stress signaling in plants: Functional genomics perspectives, Vol 2. Pandey, GK (Ed.), Springer, New York. Pp 393-414. (ISBN: 978-1-4939-2539-1).

35. **Joshi R*** and Chinnusamy V. 2014. Antioxidant enzymes: Defense against high temperature stress. In: Oxidative damage to plants: antioxidant networks and signaling. Ahmad, P. (Ed.), Elsevier USA. Pp 369-396. (ISBN: 978-0-12-799963-0). ***corresponding author**

36. **Joshi R** and Karan R. 2014. Physiological, biochemical and molecular mechanisms of drought tolerance in plants. In: Molecular approaches in plant abiotic stress. Gaur, R.K. and Sharma, P. (eds.), CRC Press, Boca Raton, FL 33487, USA. Pp 209-231. (ISBN 9781466588936)

37. **Joshi R,** Karan R, Singla-Pareek SL and Pareek A 2012**.** Microarray technology. In: Biotechnology in Medicine and Agriculture: Principles and Practices. A.K. Gupta, A. Pareek, S.M. Gupta (eds.), IK International Publishing House Pvt. Ltd., India. Pp 273-296. (ISBN-13: 978-9381141403).

Books

1. Nandave M, **Joshi R** and Upadhyay J 2024. Ethnopharmacology and OMICS Advances in Medicinal Plants Volume 1: Uncovering Diversity and Ethnopharmacological Aspects. Springer Singapore. Pp 475. **ISBN-13: 978-981-97-2366-9**

2. Nandave M, **Joshi R** and Upadhyay J 2024. Ethnopharmacology and OMICS Advances in Medicinal Plants Volume 2: Revealing the Secrets of Medicinal Plants. Springer Singapore. Pp 599. **ISBN: 978-981-97-4291-2**

3. Bhatt D, Nath M, Badoni S, and **Joshi R** 2024. Current omics advancement in plant abiotic stress biology. Academic Press, USA. Pp 488. **ISBN: 9780443216251**.

4. **Joshi R,** Dkhar J and Bhattacharya A 2020. Bamboo resources at CSIR-IHBT (Volume-I). CSIR-Institute of Himalayan Bioresource Technology, Palampur, Himachal Pradesh- 176061, India p-68. (Released by Hon. Chief Minister, H.P., Sri Jai Ram Thakur) **ISBN: 9789334060492**

5. **Joshi R and** Dkhar J 2022. Bamboo resources at CSIR-IHBT (Volume-II). CSIR-Institute of Himalayan Bioresource Technology, Palampur, Himachal Pradesh- 176061, India p-82. (Released by Hon. Governer, H.P., Shri Rajendra Vishwanath Arlekar) **ISBN: 978-93-340-7570-0**

6. **रोहित जोशी**, जेरेमी ड्खार और अमिता भट्टाचार्य 2022. सी॰एस॰आई॰आर॰-आई॰एच॰बी॰ टी॰ की बांस सम्पदा। CSIR-Institute of Himalayan Bioresource Technology, Palampur, Himachal Pradesh- 176061, India p-125. (Released by Hon. Governer, H.P., Shri Rajendra Vishwanath Arlekar) **ISBN: 978-93-340-9759-7**

7. Devi K, Gehlot A, **Joshi R,** Dkhar J, Warghat A and Bhushan S 2022. Training manual on cell and tissue culture of plants in Himalayas (Volume-I). CSIR-Institute of Himalayan Bioresource Technology, Palampur, Himachal Pradesh- 176061, India Pp-32. (Released by Dr. Dr. T. Ramasami, Former Secretary to Govt. of India, Ministry of Science and Technology & Distinguished Professor of Eminence, Technology Enabling Centre, Anna University, Chennai). **ISBN: 9789334054187**

Lab Manuals

1. **Joshi R,** Shankhahdhar SC, Shankhadhar D, Bains G, Guru SK, Shukla A and Singh M 2007. Laboratory manual for post graduates plant physiology. Deptt of Plant Physiology, College of Basic Sciences and Humanities, G.B.P.U.A&T., Pantnagar, Uttarakhand.

Genomic resources submitted to NCBI

Nucleotides: JQ345701; JX134602; JX426616; KU891669; KU891670; KU891671; KU891672; KU891673; ON586850; OP751056; OQ389128; PQ450149

Transcriptome database: *Nardostachys jatamansi* submitted to NCBI SRA database: PRJNA949109

Transcriptome database: Nanoelicitation in *Bambusa balcooa* submitted to NCBI SRA database: PRJNA1072962

Transcriptome database: Nanoelicitation in *Dendrocalamus asper* submitted to NCBI SRA database: PRJNA1073890

Oral Presentations

1. **Joshi R** 2024. From tissue culture to biotechnology: scientific revolutions for abiotic stress tolerance on 15-10-2024. In Industry collaborated workshop on "Recent advances in plant tissue culture and genetic transformation in crop plants" organized by Department of Biotechnology, Chandigarh University, Chandigarh, 14-16th October, 2024. **(Invited Lecture).**
2. **Joshi R** 2024. Plant Stress Physiology: Genetic Engineering for sustainable Agriculture on 08-07-2024. In ANRF-SERB Research Internship Vritika "Trait based phenotyping for plant-environment interaction" organized by Department of Plant Physiology, ICAR-IARI, New Delhi, 01-31st July, 2024. **(Invited Lecture).**
3. **Joshi R** 2024. Challanges opportunities and advancements in developing climate resilient crops. Value added course organized by Institute of Agriculture and Natural Sciences, Deen Dayal Upadhyaya Gorakhpur University entitled "Current Interventions in Agriculture and Allied Research" 24-30th May, 2024. **(Invited Lecture).**
4. **Joshi R** 2024. Plant Stress Physiology: Concepts and approaches towards lab to land. High-end workshop (Karyashala) on "Methods of plant abiotic stress and analysis", 18-23 March, 2024. Department of Biochemistry, School of Interdisciplinary and Applied Sciences, Central University of Haryana. **(Chief Guest lecture)**
5. Kumari A, Joshi S, Dar AI and **Joshi R** 2023. Nano-elicitation: A promising and emerging strategy for improved micropropagation of industrially important plants. National Symposium on "Sustainable Mountain Agriculture: Challenge and opportunities for achieving zero hunger and nutritional security", 05-06 July, 2023, ICAR-VPKAS, Almora (Uttarakhand). P-26.
6. **Joshi R** 2023. Building climate-resilient and nutrient enriched crops in a changing world. International conference on biodiversity, food security, sustainability and climate change (ICBFSCC-2023). 25-28th April. Organized by Assam Agriculture University, Jorhat, Assam. **(Invited lecture)**
7. **Joshi R** 2023. Plant tissue culture: Advances and perspectives. Symposium and Hands-on Training Workshop on "Plant Genome Engineering for Sustainable Development", from March 13-14. Organized by The Society for Integrative Biosciences in Association with Goswami Ganesh Dutt Sanatan Dharam College Rajpur, (Palampur), Himachal Pradesh. **(Invited lecture)**
8. **Joshi R** 2021 Genetic Engineering Approaches to develop Climate-Smart Rice, 26th June. Organized by Bioingene.com, International Webinar Series for the promotion of Plant Science Research. **(Invited lecture)**
9. **Joshi R** 2020. Understanding abiotic stress tolerance mechanisms in rice. National E-seminar on Ecosystem Restoration, on the occasion of World Environment Day, 4-5th June. Organized by Department Of Environmental Science Institute of Science, GITAM (Deemed to be University), Visakhapatnam, India.
10. **Joshi R** 2020. Plant stress physiology: Paving the way of life for abiotic stress tolerance. National Symposium on Trends in Plant Biotechnology & Agriculture and 41st Annual Meeting of Plant Tissue Culture Association of India. 6-8th February, Thapar institute of Engineering and Technology, Patiala, Punjab. Pp 26-27. **[Member PTCA(I) Presentation]**
11. **Joshi R,** Singla-Pareek SL and Pareek A 2019. Learning lessons from traditional rice Pokkali: How to detoxify inside when there is so much toxicity outside. European Molecular Biology Organization (EMBO) symposium on "Sensing and signalling in plant stress response". 15-17th April, Jawaharlal Nehru University, New Delhi, India. [**Lightening Talk, Third Prize**]
12. **Joshi R,** Singla-Pareek SL and Pareek A 2019. Unleashing the potential of pokkali metallothionein gene: lessons to combat climate change. ICGEB workshop on "Plant Stress Biology and Food Security". 18-20th April, International Centre for Genetic Engineering and Biotechnology, New Delhi, India. [**Young Investigator Presentation**]
13. **Joshi R,** Singla-Pareek SL and Pareek A 2019. Molecular characterization of metallothionein gene and its

promoter for sustainable biosaline farming. Biosparks 2019. 10th March, Jawaharlal Nehru University, New Delhi, India.

14. **Joshi R,** Singla-Pareek SL and Pareek A 2018. Functional dissection of a multi-stress inducible gene OsMT1e-P and its promoter to divulge complex stress tolerance mechanism in plants. 4th Worldwide Universities Network on Climate resilient open partnership for food security (CROP-FS). 7-8th December, Jawaharlal Nehru University, New Delhi, India. P-11. [**Invited Talk**]
15. **Joshi R,** Singla-Pareek SL and Pareek A 2017. Functional dissection of a multiple stress inducible metallothionein gene and its promoter from a naturally salt tolerant rice. 5th National Seminar on Climate Resilient Saline Agriculture: Sustaining Livelihood Security, 21-23 January, Swami Keshwanand Rajasthan Agricultural University, Bikaner (Rajasthan), India [**Young Scientist Presentation, ISSWQ**].
16. **Joshi R**, Singla-Pareek SL and Pareek A 2016. Molecular cloning and characterization of metallothionein gene promoter from *Oryza sativa* cv. Pokkali (OsMT1e-P). National Conference of Plant Physiology on Challenges in Crop Physiology Research: from Molecular to Whole Plant, 8-10th December. Department of Crop Physiology, University of Agricultural Sciences, Bengaluru, India. [**Young Scientist Award, ISPP**]
17. **Joshi R,** Sairam RK, Bhattacharya P, Lekshmy S and Chinnusamy V 2011. Expression of antioxidant defence genes in mung bean (*Vigna radiata* L.) roots under water-logging is associated with hypoxia tolerance. National Seminar on sustainable crop productivity through physiological intervention; 24-26 november. Ramnarain Ruia College, Matunga, Mumbai. Pp.171. [**Young Scientist Presentation, ISPP**]
18. **Joshi R,** Shukla A and Sairam RK 2009. *In vitro* screening of rice genotypes for drought tolerance by polyethylene glycol induced stress. National conference on frontiers in Plant Physiology towards sustainable agriculture. 5-7 November, Assam Agriculture University. Jorhat. P-260. [**Young Scientist Presentation, ISPP**]
19. **Joshi R,** Shukla A and Pant RC 2004. Electrophoretic analysis of phosphorus deprived proteins in maize (*Zea mays* L.) through *in vitro* culture. National Seminar on Plant Physiology, Dec. 27-29. Pune University P.70.

Workshops and Trainings

1- One-month tissue culture training to Mr. Ankit Shandil, Vill. Jahri, P.O. Naswal, The. Ghumarwin, Distt, Bilaspur, H.P.
2- Capacity building program of Agriculture Officers on Heeng and Saffron 20-22nd July, 2020.
3- One-month tissue culture training to Mr. Manik Vatshsyayan, Vill. Behran (Kotlu), P.O. & The. Jhandutta, Distt, Bilaspur, H.P. from 15-04-2021 to 15-05-2021
4- Five days Capacity Building of Agriculture Officers of Department of Agriculture, HP on Production Technology of Saffron and Heeng from 20-24 September, 2021 at CSIR-IHBT Palampur.
5- Resource person in two days Capacity Building program for Agriculture Officers, artisens and farmers of Himachal Pradesh on propagation and related technologies of bamboo at CSIR-IHBT, Palampur, H.P. from 30-31st August, 2022.
6- Five days Capacity Building of Agriculture Officers, Department of Agriculture, HP on production technology of saffron and heeng from 6-10th September, 2022.
7- Resource person in two days Capacity Building program for Agriculture Officers, artisens and farmers of Himachal Pradesh on propagation and related technologies of bamboo at CSIR-IHBT, Palampur, H.P. from 12-13th September, 2022.
8- Resource person in two days Capacity Building program for Agriculture Officers, artisens and farmers of Himachal Pradesh on propagation and related technologies of bamboo at CSIR-IHBT, Palampur, H.P. from 19-20th September, 2022.
9- Fifteen days training program for persons from RIISM, Jogindernagar, H.P. from 28th October 2022 to November 2022.

10- Resource person in two days training-cum-exposure visit program for farmers of Reasi, Jammu and Kashmir on "Crop diversification (Medicinal, aromatic, floriculture, spice crops etc.)", at CSIR-IHBT, Palampur, H.P. from 12-13th December, 2022.
11- Resource person in two days exposure visit of farm livelihood community persons (Krishi and Pashu Shakti) and mahila kisan under Deendayal Antyodaya Yojana- National Rural Livelihood Mission (DAY_NRLM) on "Agroecological Practices of Farming and successful Income Generation Model", at CSIR-IHBT, Palampur, H.P. from 23-24th January, 2023; 30-31st January, 2023; 6-7th February, 2023, 9-10th February, 2023 and 20-21st February, 2023.
12- Resource person in five days training program under Mehak Scheme on "Cultivation and post-harvest management of aromatic plants", at CSIR-IHBT, Palampur, H.P. from 19-23rd February, 2023.
13- Committee member in One day workshop on "Himalayan Rosa Damascena: Development of aroma farming and essential oil industry of western Himalayan Region", at CSIR-IHBT, Palampur, H.P. on 21st April, 2023.
14- Facilitator/Speaker in One day workshop on "Bamboo Cultivation and Candy making" in Unnat Bharat Abhiyan- Regional Coordinating Institute, IIT Jammu, in coordination with CSIR Palampur, NiScPR, New Delhi and NCI, IIT Delhi
15- Resource person in two days training-cum-exposure visit program on "Agro-ecological practices of farming and successful income generation model", at CSIR-IHBT, Palampur, H.P. from 05-06th June, 2023.
16- One-month tissue culture training to Mrs. Minakshi Katoch, V.P.O. Rajeher, Tehsil Palampur, Distt. Kangra, H.P. from 26-06-2023 to 04-08-2023.
17- Resource person in five days skill development program on "Agro and process technology, value addition and marketing of aromatic and industrially important crops" for the farmers of Meghalaya, at CSIR-IHBT, Palampur, H.P. from 09-13th October, 2023.
18- Resource person in five days capacity building programme for B.Sc. Agriculture students from Banaras Hindu University, Varanasi (UP) on "Exposure visit cum hands-on training to different Agrotechnologies of Floriculture, Aromatic, Medicinal, Spices and Plantation Crops", at CSIR-IHBT, Palampur, H.P. from 16-20th October, 2023.
19- Resource person in skill development program on "Agro and process technology, value addition and marketing of aromatic and industrially important crops", for the farmers of Meghalaya, at CSIR-IHBT, Palampur from 16-20th October, 2023.
20- Resource person in five day "Capacity building of Agriculture officers, department of agriculture, HP on production technology of heeng and saffron", at CSIR-IHBT, Palampur from 8-12th January, 2024.
21- Program co-ordinator of 15 days "Skill Building training program on Plant Tissue Culture" for the staff of Department of Horticulture, H.P. from 5th to 19th February, 2024
22- Program co-ordinator of 15 days "Skill Building training program on Plant Tissue Culture" for the staff of Department of Horticulture, H.P. from 1st to 15th March, 2024
23- Resource person in two-day workshop-cum-training program on "Heeng cultivation in Kargil" for 10 participants/farmers of Kargil, UT Ladakh, from 05-06 March, 2024.
24- Resource person in five-days Capacity Building Programme for B.Sc. Agriculture students from Banaras Hindu University, Varanasi (UP) on "Exposure visit cum hands-on training to different agrotechnologies of floriculture, aromatic, medicinal, spices and plantation crops" at CSIR-IHBT from 01-05 July, 2024.
25- Resource person in five-days Capacity Building Programme for B.Sc. Agriculture students from Banaras Hindu University, Varanasi (UP) on "Hands-on training cum exposure visit to different Agrotechnologies of Floriculture, Aromatic, Medicinal, Spices and Plantation Crops" at CSIR-IHBT from 08-12 July, 2024.
26- Resource person in five-days Capacity Building Programme for B.Sc. Agriculture students from Banaras Hindu University, Varanasi (UP) on "Exposure visit cum hands-on training to different Agrotechnologies of Floriculture, Aromatic, Medicinal, Spices and Plantation Crops" at CSIR-IHBT from 06-10 January, 2025.

Awards, Scholarships and Professional affiliation

1- 2024: Enlisted in global top 2% scientists released by Stanford University and Elsevier [https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7?fbclid=IwY2xjawFeFtlleHRuA2FlbQIxMAABHd05uPeT_UbGkThKqOyMH660O_1I8sOF0ZgRlnXEacRN_lbEmKFT0rOSEg_aem_vK-oDuuVQFTD4yzzpvBdmw]

2- 2023: Certificate of Excellence in Reviewing in South African Journal of Botany.

3- 2022: **Fellow Member** of Society for Advancement in Agricultural Technology and Development (SAATD), Uttarakhand, India (SAATD/FSAATD/101/2022-23).

4- 2021: Elected member of "**The National Academy of Sciences, India (NASI)**".

5- 2021: **Third best poster award** at International Symposium on Plant Biotechnology Towards Improving Agri-Food Industry and Healthcare Products (ISPB-2021), October 27-30, 2021, Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India.

6- 2020: **InSc Young Researcher Award** by Institute of Scholars (InSc), Bengaluru, Karnataka.

7- 2020: Elected **Member of Plant Tissue Culture Association** of India, PTCA(I)

8- 2020: Image included in Journal of Experimental Biology Special issue editorial Pareek A, Dhankher OP and Foyer CH. Mitigating the impact of climate change on plant productivity and ecosystem sustainability. 71(2):451-456.

9- 2020: Faculty of Biological Sciences in AcSIR - Academy of Scientific & Innovative Research.

10- 2019: **Third Prize** in the Lightning Talk session of India-EMBO symposium entitled "Sensing and signaling in plant stress response". New Delhi.

11- 2019: **Young investigator** talk in workshop on "Plant stress biology and food security", ICGEB, New Delhi.

12- 2018: **R.D. Asana Gold Medal Award** by Indian Society for Plant Physiology, IARI, New Delhi.

13- 2018: Designed the **coverpage of Journal of Biological Chemistry** 293(14)

14- 2018: **Best Poster Award** at National Symposium of Plant Biotechnology & 38th Annual Meeting of the Plant Tissue Culture Association (India), February 16-18. Arid Forest Research Institute, Jodhpur.

15- 2018: Certificate of Outstanding Contribution in Reviewing (International Journal of Biological Macromolecules)

16- 2018: Certificate of Outstanding Contribution in Reviewing (Current Plant Biology)

17- 2017: Certificate of Outstanding Contribution in Reviewing (Genes)

18- 2017: Certificate of Outstanding Contribution in Reviewing (Plant Physiology and Biochemistry)

19- 2016: **Dr. D.S. Kothari Post Doctoral Fellowship** by University Grants Commission (UGC), Government of India.

20- 2016: **Young Scientist Award** by Indian Society for Plant Physiology, IARI, New Delhi

21- 2013: **Fast Track Young Scientist (Life Sciences)** by Science and Engineering Research Board, Government of India.

22-2012: Visiting postdoctoral researcher in **National Science Foundation** funded project (to work at Louisiana State University, Baton Rouge, LA, USA)

23- 2003: **Best Poster Award** at National Symposium on "Improving crop productivity in an eco-friendly environment: Physiological and molecular approaches", Oct 15-17. G. B. Pant University of Agriculture & Technology. Pantnagar.

24- 2004-2007: **Merit-Cum-Mean Fellowship** during Ph.D by G. B. Pant University of Agriculture and Technology, Pantnagar.

25- **Ist position** in science quiz organized by Govt. Inter College, Almora, 1997

26- Organizing committee of National Symposium on "Improving crop productivity in an eco-friendly environment: Physiological and molecular approaches", Oct 15-17, 2003, Department of Plant Physiology, G. B. Pant University of Agriculture & Technology.

Professional Association

1- Life Member of Indian Society for Plant Physiology, New Delhi, India (LM-305)
2- Life Member of Indian Academy of Horticulture Sciences, New Delhi, India
3- Life Member of Society for Plant Biochemistry and Biotechnology, New Delhi, India (No. L-606)
4- Life Member of Indian Science Congress Association, Kolkata, India (No. L15234)
5- Life Member of Society for Plant Physiology and Biochemistry, New Delhi, India
6- Life Member of Indian Society of Soil Salinity and Water Quality, CSSRI, Karnal, India (LM/2014/215)
7- Life Member of Society of Biological Chemists (India), IISc, Bangalore, India (4016)
8- Life Member of The society for science of climate change and sustainable environment, New Delhi, India
9- Life Member of Global Initiative of Academic Networks (GIAN), Ministry of Human Resource Development, GOI, India
10- Life Member of Prof. H.S. Srivastava Foundation for Science and Society, Lucknow, India (PHSFS-LJ6)
11- Life Member of Society for Plant Research, New Delhi, India (SPR-LM-275)
12- Life member of Society for Advancement in Agricultural Technology and Development, Uttarakhand, India
13- Life member of Genome India International (GII), New Delhi, India (GII_2022_LM_020)
14- Life member cum Founder Member of Boshi Sen Society for Sustainable Mountain Agriculture (BoSSMA), VPKAS, Almora (BoSSMA/2023/26).
15- Life member of Society for Sugar Research and Promotion (SSRP), New Delhi, India.
16- Life Member of Alumni Almamater Advancement Association (4A), G. B. Pant Univ. of Agric. and Tech., Pantnagar, Uttarakhand, India
17- Annual Member of Association of Rice Research Workers, ICAR-NRRI, Cuttack, India
18- Annual Member of American Society of Plant Biologists, USA
19- Annual Member of American Association for the Advancement of Science, USA

Editor/ Reviewer

1- **Associate Editor,** Plant Physiology Reports (2022 onwards)
2- **Review Editor,** Frontiers in Plant Science, Plant Abiotic Stress section (2016-2018; 2022 onwards).
3- **Academic Editor,** PLOS ONE (2020 onwards)
4- **Review Editor,** Pantnagar Journal of Research, Plant Physiology Section (2020 onwards)
5- **Guest Editor,** Special issue Genes; "Plant Stress Resistance Mechanism", MDPI. (2022-2023).
6- **Guest Editor,** Special issue Biology; "Molecular Genetics in Plant Responses to Abiotic Stress", MDPI. (2023-2024).
7- **Editor,** International Journal of Agricultural Science and Food Technology (ISSN: 2455-815X).
8- **Editorial Board Member** of Biotechnology and Bioinformatics (2021 Onwards)
9- **External reviewer** for project proposals submitted under "Scheme for Promotion of Academic and Research Collaboration (SPARC)" projects, Ministry of Human Resource Development (MHRD), India.
10- **External reviewer** for project proposals submitted under "Core Research Grant (CRG)", Science and Engineering Research Board (SERB), India.